IN THE CLAIMS

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1. (Original) An apparatus comprising:

(a) a deposition chamber, wherein the deposition chamber is divided into two or more deposition regions that are integrally connected to one another; and

(b) a wafer support disposed in the deposition chamber, wherein the wafer support is moveable between the two or more interconnected deposition regions.

2. (Original) The apparatus of claim 1 wherein a piston coupled to the wafer support moves the wafer support between the two or more interconnected deposition regions.

3. (Currently Amended) The apparatus of claim 1, further comprising a heater wherein the heater ~~controls the temperature within each of the two or more deposition regions of the deposition chamber~~ is adapted to control the temperature of the wafer support.

4. (Currently Amended) The apparatus of claim 1 wherein the wafer support is an ~~e-chuck~~ electrostatic chuck.

5. (Original) The apparatus of claim 1 wherein each of the two or more deposition regions are integrally connected to another of the two or more deposition regions with an aperture.

6. (Original) The apparatus of claim 5 wherein the aperture is sealed to minimize the intermixing of deposition gases between the two or more deposition regions.

7. (Original) The apparatus of claim 1, further comprising a gas supply panel coupled to the deposition chamber.

8. (Original) The apparatus of claim 7 wherein the gas supply panel includes on or more gas supply lines which couple the gas supply panel to the deposition chamber.

9. (Original) The apparatus of claim 1, further comprising a gas exhaust pump coupled to the deposition chamber.

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10. (Original) A method of depositing a material layer on a substrate comprising:

(a) positioning a substrate on a wafer support in a deposition chamber comprising a first and second deposition region, wherein the first and second deposition regions are integrally connected to one another, and wherein the wafer support is movable between the first and second deposition regions;

(b) introducing a first deposition gas into the first deposition region and a second deposition gas into the second deposition region;

(c) moving the wafer support with the substrate thereon into the first deposition region wherein a first monolayer of the first deposition gas is chemisorbed onto the surface of the substrate;

(d) moving the wafer support with the substrate thereon into the second deposition region wherein a first monolayer of the second deposition gas is chemisorbed on the first monolayer of the first deposition gas; and

(e) repeating steps (c) and (d) until a material layer having a desired thickness is achieved.

11. (Original) A computer storage medium containing a software routine that when executed causes a general purpose computer to control a process chamber using a layer deposition method, comprising:

(a) positioning a substrate on a wafer support in a deposition chamber comprising a first and second deposition region, wherein the first and second deposition regions are integrally connected to one another, and wherein the wafer support is movable between the first and second deposition regions;

(b) introducing a first deposition gas into the first deposition region and a second deposition gas into the second deposition region;

(c) moving the wafer support with the substrate thereon into the first deposition region wherein a first monolayer of the first deposition gas is chemisorbed onto the surface of the substrate;

(d) moving the wafer support with the substrate thereon into the second deposition region wherein a first monolayer of the second deposition gas is chemisorbed on the first monolayer of the first deposition gas; and

(e) repeating steps (c) and (d) until a material layer having a desired thickness is achieved.

12. (New) The method of claim 11, wherien the step of moving the substrate support to the second deposition region further comprises:

changing the elevation of the substrate support.

13. (New) The apparatus of claim 1, wherein the first and second deposition regions are vertically stacked.

14. (New) The apparatus of claim 1, wherein the chamber further comprises:

a first orifice adapted to provide process gas to the first deposition region; and

a second orifice adapted to provide process gas to the second deposition region.

15. (New) The apparatus of claim 14, wherein the first orifice is disposed vertically above the second orifice.

16. (New) The method of claim 10, wherein the step of moving the substrate support to the second deposition region further comprises:

changing the elevation of the substrate support.

17. (New) A method of depositing a material layer on a substrate comprising:

positioning a substrate on a wafer support in a deposition chamber comprising a first deposition region and a second deposition region, wherein the first and second deposition regions are integrally connected to one another;

depositing a first monolayer on the wafer disposed on the substrate support in the first deposition region;

moving the wafer positioned on the substrate support to the second deposition region; and

depositing a layer on the wafer in the second deposition region;

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18. (New) The method of claim 17 further comprising:

depositing a second monolayer on the wafer in the first deposition region.

19. (New) The method of claim 17 further comprising:

introducing a first deposition gas to form the first monolayer in the first deposition region; and

introducing a second deposition gas to deposit the layer in the second deposition region.